

Attorney Docket No. BDL-341XX
Filed: Herewith
Group Art Unit:

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(CONT) C 7 a plurality of consolidated bowl preforms are densified
simultaneously by chemical vapor infiltration.

REMARKS

This Preliminary Amendment puts the claims into proper form for examination.

Note that claims 1, 3, 4, 6-15, 18, and 21 have been amended; new claim 24 has been added; and claims 2, 5, 16, 17, 19, 20, 22, and 23 remain unchanged. Kindly calculate the filing fee based on the amended claims.


This Application contains a translation of the title and abstract as they were when originally filed by the Applicant. No account has been taken of any changes that may have been made subsequently by the PCT Authorities acting ex officio, e.g., under PCT Rules 37.2, 38.2, and/or 48.3.

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The Examiner is encouraged to telephone the undersigned attorney to discuss any matter which would expedite allowance of the present application.

Respectfully submitted,

JEAN-MICHEL GEORGES, ET AL.

By: 
Charles L. Gagnebin III
Registration No. 25,467
Attorney for Applicants

WEINGARTEN, SCHURGIN, GAGNEBIN
& HAYES LLP
Ten Post Office Square
Boston, MA 02109
Telephone: (617) 542-2290
Telecopier: (617) 451-0313

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Enclosure

Red-lined claims for the Examiner's convenience:

1. A method of manufacturing a bowl of thermostructural composite material formed by fiber reinforcement densified by a matrix, the method being characterized in that comprises the steps consisting in:

- making a bowl preform (28) by winding a yarn, the preform having an axial passage (30) through its bottom;
- densifying the bowl preform by chemical vapor infiltration; and
- closing the passage by means of a plug (34).

3. A method according to claim 1 or claim 2, characterized in that the consolidated bowl preform (28) is made by winding a yarn impregnated by a precursor for said material constituting the matrix, and by transforming the precursor by heat treatment.

4. A method according to claim 3, characterized in that the consolidated bowl preform (28) is made by winding a yarn impregnated by a carbon precursor and by transforming the precursor.

6. A method according to ~~any one of claims 3, 4, and 5,~~ characterized in that two consolidated preforms are made simultaneously by winding a shape on a mandrel ~~(12)~~ where the shape corresponds to that of two bowl outline portions joined rim-to-rim, and by cutting the resulting winding ~~(22)~~ in its middle portion.

7. A method according to ~~any one of claims 1 to 6,~~ characterized in that the bowl preform is made from yarn that has no surface treatment to provide surface functions.

8. A method according to ~~any one of claims 1 to 7,~~ characterized in that the bowl preform is made from a carbon yarn.

9. A method according to ~~any one of claims 1 to 8,~~ characterized in that the bowl is subjected to high temperature purification and stabilization treatment.

10. A method according to ~~any one of claims 1 to 8,~~ characterized in that the high temperature purification and stabilization treatment is performed on the consolidated bowl preform.

11. A method according to claim ~~9 or claim 10~~, characterized in that the purification and stabilization treatment is performed at a temperature greater than 2200°C.

12. A method according to ~~any one of claims 1 to 11~~, characterized in that bowl preform densification is performed by forming a carbon matrix.

13. A method according to ~~any one of claims 1 to 12~~, characterized in that the plug ~~(34)~~ is made in two pieces ~~(35, 37)~~ that are assembled together so as to clamp onto the rim of the axial passage in the preform.

14. A method according to ~~any one of claims 1 to 13~~, characterized in that the passage ~~(30)~~ is closed by a plug ~~(34)~~ made of thermostructural composite material.

15. A method according to ~~any one of claims 1 to 14~~, characterized in that it includes a step consisting in performing a final chemical vapor infiltration step after the passage ~~(30)~~ has been closed by the plug ~~(34)~~.

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18. A method according to ~~any one of~~ claims 1 ~~to~~ 17, characterized in that a protective coating is formed at least on the inside face of the bowl.

21. A method according to ~~any one of~~ claims 1 ~~to~~ 20, characterized in that the inside face of the bowl is provided with a protective layer.